

Is Your Company Ready For The Year 2000?

A YEAR 2000 GUIDELINE FOR BUSINESSES.

What is the year 2000 problem?

The year 2000 problem started decades ago when early computers had very limited memory and storage space. Programmers saved space by storing the absolute minimum amount of data necessary for business functions. One place they saved was by representing the years by their last two digits. So, 1946 was represented and stored as 46, 1967 as 67, and so on. Reducing years to two digits worked well as long as the century didn't change. However, as the next century approaches, computers that still maintain years as two digits may not recognize the year 2000 as greater than the year 1999. Although a computer may recognize that 99 is greater than 98, it may not recognize that 00 is greater than 99 and



may revert back to 1900 instead of advancing to the year 2000.

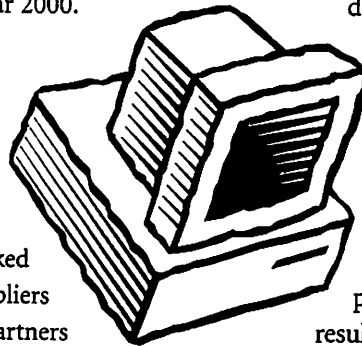
Are you sure you're ready to do business in the year 2000?

Have you completely tested all of your systems and talked to your business suppliers and other business partners to insure you won't encounter any year 2000 problems?

According to Peter de Jager, an internationally recognized expert of the year 2000 problem, there is no single solution, no silver bullet. Each system must be assessed and corrected, because each system processes dates in different ways.

Why is it so important?

Data processing systems used



in businesses rely heavily on dates and date processing. If the computer code does not recognize that one date is greater than another, it may not be able to process properly and may produce erroneous results. For example, if a contract is entered into a program with a start date of 1998 and an ending date of 2005, the program may subtract 98 from 05 resulting in a term of 93 years, rather than 7 years. This problem may put a business at risk because it could affect its cash flow, inventory, taxes, interest calculations, financial forecasting, customer relations, and many other vital areas.

Imagine if you were unable to retrieve your accounts receivable and inventory records, or if one of your customers placed an order in late 1999 for delivery in early 2000 and that order was lost. Or you

could not correctly calculate the taxes and insurance premiums to be withheld for your employees.

Doing nothing is not the answer.

If you do nothing to fix this problem, your business may fail. In 1996, the Gartner Group estimated that the year 2000 problem would cost \$600 billion to fix. Later estimates by Lloyds of London have been as high as \$1 trillion.

Economist Ed Yardeni has estimated that there is a 35% chance of a global recession because some businesses will be unable to deal with their year 2000 problems. Worst, because the year 2000 problem is a foreseeable problem, the officers and directors of your organization could be held liable in any suits.

Its not just a data processing problem.

The year 2000 problem is a business problem. The decision to spend the money, time, and resources are business decisions. The costs of making your organization compliant may be substantial, so the decisions on what to fix and what to risk not fixing need to be made at the highest levels.

How big a problem?

This worldwide problem not only affects mainframe computers and their programs, but also personal computers and every piece of hardware that contains a microchip, including manufacturing control, telecommunications,

transportation, national defense, security, money transfer, and other financial systems, as well as utilities, stock markets, and even appliances.

The year 2000 problem may affect your business in countless ways. Your personal computers may reset themselves to the year 1980 or 1900 because the microchip that maintains the clock/calendar does not recognize 2000 as a valid year. A photocopier that records the number of copies made in a day may stop working in the year 2000 because the microchip may fail to recognize 00 as a valid year. A security system may fail to operate properly and might allow unauthorized access to your buildings. A preprogrammed fax machine used to send announcements to your customers may stop

working after 12/31/99. A preprogrammed money transfer from a savings into a checking account to cover checks to your creditors may not take place.

Beyond your own business computer systems, there are also your customers and suppliers. If your trading partners fail, your cash flow can suffer critically.

Managing to year 2000 readiness.

Correcting the year 2000 problem in your organization will require senior management involvement

by owners, partners, officers and/or the Board of Directors. You may want to form a year 2000 team, including legal and audit representatives, and if appropriate to your business,

designate one person as your year 2000 project manager with the responsibility for making your entire business ready for the century date change.

An overall project plan with milestones and deadlines will be critical to your efforts and each functional area should be encouraged to develop its own plans. Year 2000 readiness must be made a priority from the top down.

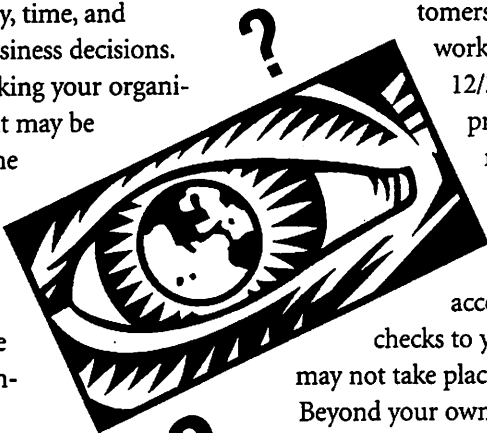
Possible steps to readiness.

Here is a simple five-step plan to achieve year 2000 readiness.

1. Awareness - educating and involving all levels of your organization in solving the problem. A crucial step in awareness is creating a communication strategy to make certain that everyone is informed and that management has the information it needs to make decisions. Holding seminars or meetings to educate people and bringing in outside speakers are two ways to increase awareness.

The awareness phase never ends. As people move to other jobs, and new people are hired, they must be educated. There is also an ongoing need to keep your staff and business partners informed.

2. Inventory- creating your checklist toward year 2000



readiness. In this phase, you should identify and list all of the different computer-based systems, software, computers, peripherals, service providers, and other hardware that contain microchips that support your business. Each entry on your list should be ranked by how critical it is to your business.

Reminder: Some systems will begin failing before the century date change because they perform forecasting or future processing.

3. Assessment- examining how severe and widespread the problem is in your business and what needs to be fixed. Starting with the most critical items on the inventory, determine which systems are date-sensitive and whether they will fail when the century changes.

Examples of a date-sensitive system is one that manipulates or works with dates in some way, or a system that operates differently based upon the date. Systems include ones that perform any kind of forecasting or projections through time, such as calculating interest on a loan or projecting inventory levels, and those which retrieve records based on a date, such as invoices, or systems that sort items by date, such as accounting or inventory systems.

Examples of date-sensitive hardware include lighting systems, that switch on automatically, manufacturing control systems, and scanners or card readers that read ID badges or credit/debit cards.

Once you have determined the state of readiness for each system and component listed in your inventory, you should develop a

strategy for dealing with those that have to be fixed. There are only three possible strategies: repair, replace, or retire the system.

As you purchase new computers, packages, hardware, upgrade existing packages, and develop new lines of business, remember that this new equipment needs to be checked to ensure it is year 2000 ready. Upgrade packages also need to be checked for readiness after upgrading.

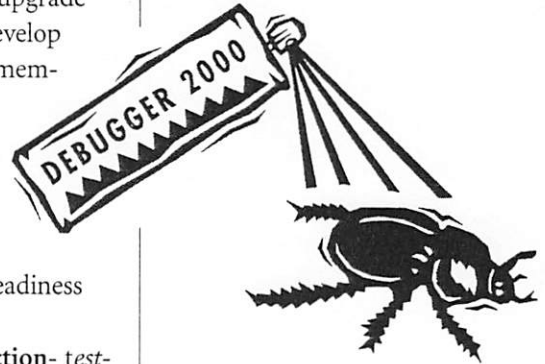
4. Testing and Correction- testing the year 2000 readiness strategy you have chosen. Testing, a critical aspect of any year 2000 project, verifies that the repairs, replacements and interfacing systems are not adversely affected. Year 2000 ready systems are only defined as ready if they can demonstrate cor-

rect management and manipulation of data involving dates, including single-century and multi-century formulas, without causing an abnormally ended scenario

within the system or generating incorrect values involving dates.

5. Implementation and Contingencies- moving your repaired or replaced system into your production environment. Before you install the new system, you should develop installation and contingency plans. The installation plan lists all files and programs needed, all steps necessary to make your upgraded system work, and inline testing to insure

that the installed systems are working as expected. Contingency plans list possible foreseeable problems and steps you will take to confront these problems.

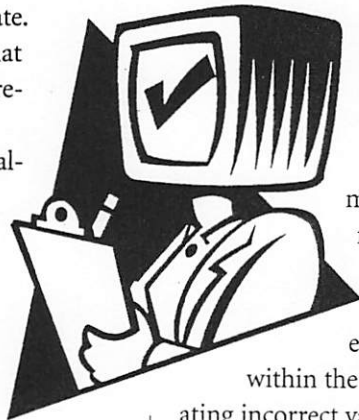


Don't get contaminated.

Once you have made your systems year 2000 compliant, make sure that subsequent changes do not contaminate repaired systems. A system might get contaminated if a programmer makes a change to a repaired system and inadvertently changes the logic that handles the century change. Also a vendor-supplied package might become contaminated if subsequent releases of the package don't include the year 2000 changes. Retest the year 2000 changes as part of any subsequent system modification effort.

Personal computers aren't exempt.

Personal computers, widely used in many businesses, all have an internal clock/calender. In some, the year is stored and processed as two-rather than four digits. The year 2000 will affect these computers just as with other systems. If you are running systems that access this PC's date, those systems may fail. All PC's should be tested, regardless of how they are used. You should contact the computer manufacturer to ensure that your PC is year 2000 ready. Even a brand-new state-of-the-art PC



may not be ready for the year 2000 and all PC's should be tested before they are installed.

Your business is not alone.

No business exists in a vacuum. Yours is part of a chain of customers, suppliers, utilities, and vendors. Year 2000 failures at any level can impact your business. Here are some tips to protect your business in this chain.

Vendor-supplied products- many software vendors will not be able to make their products year 2000 ready or may no longer support your product. Others might be out of business or unable to make upgrades before late 1999. For date-sensitive systems, contact the vendors to find out their readiness plans. If a vendor will not give you information about the readiness status of a package or if a version will not be available until late 1999, you should investigate an alternative system.

Even if a vendor insists its product can handle the change, you should still test it as well as any upgraded version.

Data processing service bureaus- if you use a service bureau for your data processing needs, contact them to discuss their plans for year 2000 and what their plans mean to your business. A data processing change late in 1999 may be too risky.

Record storage/retention firms- you may use a firm to store critical legal documents and backup tapes offsite. These firms should be contacted to determine their state of readiness. It could be disastrous if you have an emergency and discover that your offsite storage firm

can't find your backups.

Year 2000 information on the internet.



The internet has thousands of Web sites dedicated to the year 2000 problem.

Many sites have links to sources of freeware, planning tools, discussion groups, and other information for making your business ready for the century date change.

The following is a short list of useful Web sites:

www.year2000.com- Peter de Jagers Web site- a good source of links to other sites.

www.compinfo.co.uk/y2k/manufpos.htm- Contains links to computer manufacturers home pages where you can find year 2000 compliance information.

www.software.ibm.com/year2000- IBM's Year 2000 page.

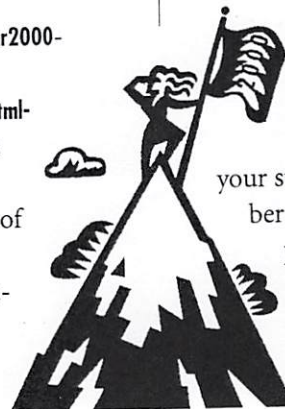
www.gmt-2000.com/map.html- The link to Greenwich Mean Time's home page with evaluations of PC testers and BIOS chips- useful PC evaluation.

www.microsoft.com/ithome/topics/year2k- Microsoft's year 2000 page.

pw2.netcom.com/-hellott/00.htm- Contains many links to other sites.
www.jks.co.uk/y2ki/confer/notices/dtisme01.htm- 'Helping the Small Business Tackle Year 2000.'

www.sba.gov/y2k- SBA's year 2000 Checklist for Small Business.

www.isquare.com/y2k.htm- The Small Business Advisor.



www.bog.frb.fed.us/y2k- The year 2000 Federal Reserve Bank Board of Governors.

www.fliec.gov/y2k- The year 2000 page of the Federal Financial Institution Examination Council.

www.frb.sf.frb.org/fiservices/tde- The Federal Reserve Bank of San Francisco's year 2000 page.

Other sources of help.

Professional organizations or trade associations may be able to provide you with support and advice. There are many consulting firms and independent consultants who can help you get your business ready for the change. Many data processing and business magazines have articles about the year 2000 problem and most large cities now have year 2000 user groups. One magazine is dedicated solely to the year problem is 'The Year 2000 Journal.' It can be reached at 214.340.2147 and its internet address is

www.y2kjournal.com.

If you can't find a year 2000 user group, form one. It can become your support group and a member may have already solved problems you're facing. If you form, or join a year 2000 user group, invite local political officials to become involved. They will have to work with their local government agencies to ensure that police and fire services, water, electricity, and other utilities are uninterrupted.

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